

In the Claims:

1-54. (cancelled)

55. (currently amended) A user interface for controlling color reproduction at multiple sites wherein each of said sites has at least one color input or output device and said user interface is operable at a computer comprising:

means for enabling a user to select a plurality of sites and to connect said plurality of sites; and

means for enabling the production of information for transforming input color image data into output color image data for the color input or output devices at said plurality of sites such that colors produced by the color devices appear substantially the same within colors attainable by each of the devices, wherein said information for transforming means comprises information ~~means for establishing a relationship~~ relating the color gamuts of said different color devices to each other.

56. (previously presented) The user interface according to Claim 55 wherein said means for enabling a user to select a plurality of sites and to connect said plurality of sites connects said sites in a network using network interfacing means.

57. (previously presented) The user interface according to Claim 55 wherein said user interface is implemented on the computer using object oriented components.

58. (previously presented) The user interface according to Claim 57 wherein said means for enabling a user to select a plurality of sites represents a first means, said means for enabling production of information represents a second means, and said object oriented components comprise:

an abstract menu object comprising:

a command name object;

means for selecting the abstract menu object; and

a submenu command object derived from the abstract menu object, and comprising means for executing the submenu command object;

a menu command object derived from the abstract menu object comprising:

- a plurality of the submenu command objects;
- means for selecting one of the submenu command objects; and
- a menu bar object derived from the abstract menu object comprising a plurality of the menu command objects, and a select menu for selecting one of the menu command objects; and

a first action command object derived from the submenu command object comprising:

- means for selecting said action command object; and
- means for carrying out said first action command object for operating said second means.

59. (previously presented) The user interface according to Claim 57 wherein said means for enabling a user to select a plurality of sites represents a first means, said means for enabling production of information represents a second means, and said object oriented components comprise:

an abstract menu object comprising:

- a command name object;
- means for selecting the abstract menu object; and
- a submenu command object derived from the abstract menu object, and comprising means for executing the submenu command object;

a menu command object derived from the abstract menu object comprising:

- a plurality of the submenu command objects;
- means for selecting one of the submenu command objects; and
- a menu bar object derived from the abstract menu object comprising a plurality of the menu command objects, and a select menu for selecting one of the menu command objects; and

a first action command object derived from the submenu command object comprising:

means for selecting said action command object; and  
means for carrying out said first action command object for operating said first means.

60. (currently amended) The user interface according to Claim 55 wherein said means for enabling a user to select and connect said sites establishes ~~further comprises means for establishing~~ said connection between said multiple sites for data communication through a shared file structure having one or more components capable of being shared by said ~~site~~ sites.

61. (previously presented) The user interface according to Claim 55 further comprises means for displaying the topology of the connected sites to the user as linked nodes.

62. (previously presented) The user interface according to Claim 55 further comprising:

means for defining user preferences for color reproduction by at least one of the color devices.

63. (currently amended) The user interface according to Claim 62 further comprising means for enabling the user to select preferences of neutral color definition or utilization of a neutral colorant , %UCR, GCR, ~~and maximum black~~.

64. (previously presented) The user interface according to Claim 55 further comprising:

means for displaying characteristics of said defined color transformation at one or more sites.

65. (previously presented) The user interface according to Claim 64 wherein said characteristics comprise at least the gamut of the color transformation of one or more color devices.

66. (previously presented) The user interface according to Claim 55 further comprising:

means for comparing characteristics of said defined color transformation at one or more sites for two or more of said color devices.

67. (previously presented) The user interface according to Claim 66 wherein said characteristics comprise at least the gamut of the color transformation of one or more color devices.

68. (previously presented) The user interface according to Claim 55 further comprising:

means for annotating images produced by at least one of said color devices.

69. (previously presented) The user interface according to Claim 55 wherein said means for enabling production of transformation information is capable of operating automatically without user assistance.

70. (previously presented) The user interface according to Claim 56 wherein said network represents one of a Wide Area Network (WAN), Internet, telecommunications network or LAN.

71. (previously presented) The user interface according to Claim 55 wherein at least two of said sites are remote from each other.

72. (previously amended) A user interface for controlling color reproduction at multiple sites wherein each of said sites has at least one color input or output device and said user interface is operable at a computer comprising:

means for enabling a user to select a plurality of sites and to connect said plurality of sites; and

means for enabling the production of information for transforming input color image data into output color image data for the color input or output devices at said

plurality of sites such that colors produced by the color devices appear substantially the same within colors attainable by each of the devices.

73. (currently amended) The user interface according to Claim 72 wherein said information for transforming means comprises at least information means for establishing a relationship relating the color gamuts of said different color devices to each other.

74. (previously presented) The user interface according to Claim 72 wherein said means for enabling a user to select a plurality of sites and to connect said plurality of sites connects said sites in a network using network interfacing means.

75. (currently amended) A user interface for controlling color reproduction at one or more sites having color reproduction devices which said user interface is operable at a computer adapted for communication between a network of said sites and comprises means for enabling a user to select at least one different site than the site where said user interface is operated and to communicate information with said different site, in which said information enables the simulation of color reproduction by at least one color reproduction device of another color reproduction device.

76. (previously presented) A user interface, operable at a computer, for controlling color reproduction of an image at one or more sites comprising:

means for selecting one of different gamut operations upon said image, wherein color data of the image is compressible or expandable according to said selected gamut operation and one of said color data or information defining the gamut operation is capable of being communicated between the sites.

77. (currently amended) An ~~interface of an~~ apparatus for improving image reproduction software application for of digital image color data captured by a camera comprising:

~~means for processing digital color image data captured by a camera;~~

means for enabling the interpretation of ~~interpreting~~ said image data with respect to information on the relationships between color gamuts of said camera and the color coordinate system of said image data; and

means for enabling the transformation of ~~transforming~~ said image data for reproduction on a color rendering device to improve the match between the color gamuts of said camera and color gamuts of said color rendering device and said transformation is capable of expanding the color gamut of said image data for said color rendering device.

78. (currently amended) A method for associating different image rendering devices with each other to define the color transformation of digital images between two or more rendering devices, comprising the steps of:

producing a ~~matrix~~ model relating different ones of said rendering devices to each other in which rendering devices having similar color rendering characteristics are grouped in a class;

generating an object defining each said class; and

sharing color transformation information between one or more rendering devices of each said class by inheritance.

79. (cancelled)

80. (currently amended) An apparatus for controlling color reproduction by multiple rendering devices comprising:

a computer system connectable to a plurality of sites along a network for communication with said sites which produce information for transforming input color image data into output color image data for rendering devices at said sites such that colors produced by the rendering devices appear substantially the same within output colors attainable by the rendering devices, wherein said information for transforming comprises at least information relating the color gamuts of said rendering devices to one another.

81. (previously presented) The apparatus according to Claim 80 wherein said information comprises at least the relationship of the gamut of input image data to the gamuts of one or more rendering devices.

82. (previously presented) The apparatus according to Claim 80 wherein said computer system further comprises a user interface for enabling a user to select one or more sites for connection to said computer system.

83. (previously presented) The apparatus according to Claim 80 wherein said computer system is located at one of said sites.

84. (new) The apparatus according to Claim 80 wherein said information for transforming comprises gamut operations that are invertible or reciprocal.

85. (new) The user interface according to Claim 55 wherein said information for transforming comprises gamut operations that are invertible or reciprocal.

86. (new) The user interface according to Claim 55 further comprising means enabling a user to initiate verification that said transformation information properly transforms said input color image data to said output color image data at one or more of said sites.

87. (new) The user interface according to Claim 55 wherein said means for enabling a user to select a plurality of sites and to connect said plurality of sites further comprises means for enabling a user to graphically configure the topology of the sites to select said sites for connection.

88. (new) A method for controlling color reproduction of digital color image data captured by a digital color input device comprising the steps of:

providing information for interpreting said image data with respect to the relationships between color gamuts of said input device and the color coordinate system of said image data; and

storing said information to enable reproduction on a color rendering device which improves the match between the color gamuts of said input device and color gamuts of said color rendering device.

89. (new) The method according to Claim 88 wherein said information enables the expansion of the color gamuts of said image data for said color rendering device.

90. (new) An apparatus providing control of color reproduction between a digital color image data input device and a color rendering device comprising:

a microprocessor-based system which generates information for interpreting image data with respect to information on the relationships between color gamuts of said input device and gamuts of the color coordinate system of said image data, and transforms said image data for reproduction on said color rendering device in accordance with said information to improve the match between the color gamuts of said input device and color gamuts of said color rendering device.

91. (new) The apparatus according to Claim 90 further comprising memory for storing said information, and said information is stored in a data structure at least part of which is shareable with other devices.

92. (new) The apparatus according to Claim 90 wherein said transformation is capable of expanding the color gamut of said image data for said color rendering device

93. (new) A method for providing control to a user for processing color images comprising the steps of:

providing an interface through which said user is able to select a plurality of sites having one or more color input or output devices;

communicating between said sites through a network protocol; and



providing information for transforming input color image data into output color image data for each of the color input or output devices at each of said plurality of sites such that colors produced by the color devices appear substantially the same within colors attainable by each of the devices.

94. (new) The method according to Claim 93 wherein said information for transforming comprises at least information relating the color gamuts of said color devices to each other.

95. (new) The method according to Claim 93 wherein said information for transforming comprises gamut operations that are invertible or reciprocal.

96. (new) The method according to Claim 93 wherein said network protocol is TCP/IP.

97. (new) The method according to Claim 93 wherein the communication between said sites employs one of a wide area network, Internet, telecommunication network, or LAN.

98. (new) A user interface for controlling color reproduction at one or more sites having color reproduction devices in which said user interface is adapted for communication between a network of said sites, said user interface comprising a graphical display and pointing device enabling a user to select at least one different site on said display than the site where said user interface is operated and to communicate information with said different site that enables the simulation of color reproduction by at least one color reproduction device of another color reproduction device at said different site.

99. (new) A user interface for controlling color reproduction of an image at multiple sites comprising a display and a device for choosing among graphical elements on said display for selecting one of different gamut operations upon said image, wherein

color data of the image is compressible or expandable according to said selected gamut operation and one of said color data or information defining the gamut operation is capable of being communicated between at least two of the sites.